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CLAIMS:

1. In a CDMA (code division multiple access) communication system having a base station controller (BSC), a mobile station (MS) and a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing an area of high-speed data coverage, a method for switching a high-speed data packet data call to a non-high-speed data circuit switched data call, the method comprising the steps
5 of:
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identifying that the MS is exiting an area of high-speed data coverage and entering an area of non-high-speed data coverage;

15 negotiating service options between the MS and the BSC; and

switching from high-speed packet data service option to non-high-speed data circuit switched data service option.

20 2. The method of claim 1 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

25 3. The method of claim 1 wherein the step of negotiating service options between the MS and the BSC comprises the BSC proposing to the MS that the existing high-speed data packet data service option be ended and a new non-high-speed data circuit switched data service option be connected.

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4. The method of claim 3 further comprising the step of determining whether the MS can accept the service option change.

5. The method of claim 4 further comprising the step of the BSC instructing the MS to release high-speed data physical channels and replace them with non-high-speed data physical channels.

10 6. The method of claim 5 wherein the communication system has a radio interface relay layer, further comprising the step of switching the radio interface relay layer to RLP-1 protocol.

15 7. The method of claim 6 wherein the MS has an MT2 (mobile terminal) having a relay layer, an RLP (radio link protocol), a PPP (point-to-point protocol), an IP (internet protocol), a TCP (transport control protocol) and an application interface layer, further comprising the step of initializing the RLP, PPP, IP, TCP and the application interface layers such that the relay layer of the MT2 is not disturbed.

20 8. The method of claim 1 wherein the communication system has a PDSN (packet data support node) connected to the BSC via an R-P interface and wherein the step of negotiating service options between the MS and the BSC further comprises the step of the BSC signalling to the PDSN via the R-P interface that it must alter the protocol stack used on the R-P interface.

25 9. The method of claim 1 wherein the communication system has a PDSN with a PDSN link layer and an application interface layer application and wherein the MS has a TE2 link layer wherein the step of switching from high-speed data

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packet data service option to non-high-speed data circuit switched data service option comprise the step of the PDSN delivering data destined for the TE2 link layer to the application interface layer application and data arriving
5 from the TE2 being delivered by the application layer interface in the PDSN to the PDSN link layer.

10. A CDMA (code division multiple access) communication system comprising:

a base station controller (BSC);

10 a mobile station (MS);

a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing an area of high-speed data coverage;

15 means for identifying that the MS is exiting an area of high-speed data coverage and entering an area of non-high-speed data coverage;

means for negotiating service options between the MS and the BSC; and

20 means for switching from high-speed data packet data service option to non-high-speed data packet data service option.

11. The CDMA communication system of claim 10 wherein the area of high-speed data coverage is an area of IS-2000
25 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

12. The CDMA communication system of claim 10 wherein the means for negotiating service options between the MS and

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the BSC comprises means for the BSC proposing to the MS that the existing high-speed data packet data service option be ended and a new non-high-speed data circuit switched data service option be connected.

5 13. The CDMA communication system of claim 12 further comprising means to determine whether the MS can accept the service option change.

10 14. The CDMA communication system of claim 13 further comprising means to have the BSC instruct the MS to release high-speed data physical channels and replace them with non-high-speed data physical channels.

15 15. The CDMA communication system of claim 14 further comprising:

a radio interface relay layer; and

16 means to switch the radio interface relay layer to RLP-1 protocol.

16. The CDMA communication system of claim 15 further comprising:

a TE2 (terminal equipment) in the MS;

20 an MT2 (mobile terminal) with a relay layer;

an RLP (radio link protocol);

a PPP (point-to-point protocol);

an IP (internet protocol);

a TCP (transport control protocol);

25 an applications interface layer; and

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means for initializing the RLP, PPP, IP, TCP and the application interface layer such that the relay layer of the MT2 is not disturbed.

17. The CDMA communication system of claim 10 wherein
5 the means for negotiating service options between the MS and the BSC further comprises:

a PDSN (packet data support node) connected to the BSC via an R-P interface; and

- 10 means to have the BSC signal to the PDSN via the R-P interface that it must alter the protocol stack used on the R-P interface.

18. The CDMA communication system of claim 10 further comprising:

a PDSN with a PDSN link layer;

15 an application interface layer application;

a TE2 link layer in the MS; and

- the means for switching from high-speed data packet data service option to non-high-speed data circuit switched data service option further comprising means for the PDSN 20 delivering data destined for the TE2 link layer to the application interface layer application and data arriving from the TE2 being delivered by the application layer interface in the PDSN to the PDSN link layer.

19. In a CDMA (code division multiple access)
25 communication system having a base station controller (BSC), a mobile station (MS) and a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing

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an area of high-speed data coverage, a method for switching a non-high-speed data circuit switched data call to a high-speed data packet data call, the method comprising the steps of:

- 5 identifying that the MS is exiting an area of non-high-speed data coverage and entering an area of high-speed data coverage;
- negotiating service options between the MS and the BSC; and
- 10 switching from non-high-speed data circuit switched data service option to high-speed packet data service option.
- 15 20. The method of claim 19 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non high-speed data coverage is an area of IS-95 coverage.
- 20 21. The method of claim 19 wherein the step of negotiating service options between the MS and the BSC comprises the BSC proposing to the MS the existing non-high-speed data circuit switched data service option be ended and a new high-speed data packet data service option be connected.
22. The method of claim 21 further comprising the step of determining whether the MS can accept the service option change.
- 25 23. The method of claim 22 further comprising the step of the BSC instructing the MS to release non-high-speed data physical channels and replace them with high-speed data physical channels.

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24. The method of claim 22 wherein the communication system has a PDSN (packet data support node) connected to the BSC via an R-P interface, further comprising the step of the BSC signalling to the PDSN via the R-P interface that it must alter the protocol stack used on the R-P interface.

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25. The method of claim 23 wherein the MS has an MT2 (mobile terminal) having a relay layer, an RLP (radio link protocol), a PPP (point-to-point protocol), an IP (internet protocol), TCP (transport control protocol) and an application interface layer, further comprising the step of removing the RLP, PPP, IP, TCP and the application interface layer such that the relay layer of the MT2 is not disturbed.

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26. The method of claim 19 wherein the communication system has a PDSN connected to the BSC via an R-P interface, the MS has an MT2 having an RLP wherein the step of switching from non-high-speed data circuit switched data service option to high-speed data packet data service option comprises the step of the BSC continuing to relay the content of RLP frames to the PDSN over the R-P interface.

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27. A CDMA communication system comprising:

a base station controller (BSC);

a mobile station (MS);

a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing an area of high-speed data coverage;

means for identifying that the MS is exiting an area of non-high-speed data coverage and entering an area of high-speed data coverage;

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means for negotiating service options between the MS and the BSC; and

means for switching from non-high-speed data circuit switched data service option to high-speed packet data service option.

28. The CDMA communication system of claim 27 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

10 29. The CDMA communication system of claim 27 wherein the means for negotiating service options between the MS and the BSC comprises means for the BSC proposing to the MS the existing non-high-speed data circuit switched data service option be ended and a new high-speed data packet data service option be connected.

15 30. The CDMA communication system of claim 29 further comprising means for determining whether the MS can accept the service option change.

20 31. The CDMA communication system of claim 30 further comprising means for the BSC instructing the MS to release non-high-speed data physical channels and replace them with high-speed data physical channels.

32. The CDMA communication system of claim 27 further comprising:

25 a PDSN (packet data support node) connected to the BSC via an R-P interface; and

means for the BSC signalling to the PDSN via the R-P interface that it must alter the protocol stack used on the R-P interface.

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33. The CDMA communication system of claim 31 wherein
the MS has an MT2 (mobile terminal) having a relay layer, an
RLP (radio link protocol), a PPP (point-to-point protocol),
an IP (internet protocol), TCP (transport control protocol)
5 and an application interface layer, further comprising means
for removing the RLP, PPP, IP, TCP and the application
interface layer such that the relay layer of the MT2 is not
disturbed.

34. The CDMA communication system of claim 27 wherein
10 the communication system has a PDSN connected to the BSC via
an R-P interface, the MS has an MT2 having an RLP whcrcin the
means for switching from non-high-speed data circuit switched
data service option to high-speed data packet data service
option comprises means for the BSC continuing to relay the
content of RLP frames to the PDSN over the R-P interface.

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35. In a CDMA (code division multiple access)
communication system having a base station controller (BSC),
a mobile station (MS) and a plurality of base station
transceivers (BTS) with at least one BTS providing an area of
non-high-speed data coverage and at least one BTS providing
an area of high-speed data coverage, a method for switching a
high-speed data packet data call to a non-high-speed data
packet data call, the method comprising the steps of:

20 identifying that the MS is exiting an area of high-
speed data coverage and entering an area of non-high-speed
data coverage;

25 negotiating service options between the MS and the
BSC; and

switching from high-speed packet data service
30 option to non-high-speed data packet data service option.

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36. The method of claim 35 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

5 37. A CDMA (code division multiple access) communication system comprising:

a base station controller (BSC);

a mobile station (MS);

10 a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing an area of high-speed data coverage;

15 means for identifying that the MS is exiting an area of high-speed data coverage and entering an area of non-high-speed data coverage;

20 means for negotiating service options between the MS and the BSC; and

means for switching from high-speed data packet data service option to non-high-speed data packet data service option.

38. The CDMA communication system of claim 37 wherein the area of high-speed data coverage is an area of IS-2000 coverage.

25 39. The CDMA communication system of claim 37 wherein the area non-high-speed data coverage is an area of IS-95 coverage.

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40. Computer-readable media embodying a program of
instructions executable by a computer to perform a method for
switching a high-speed data packet data call to a non-high-
speed data circuit switched data call in a CDMA (code
division multiple access) communication system having a base
station controller (BSC), a mobile station (MS) and a
plurality of base station transceivers (BTS) with at least
one BTS providing an area of non-high-speed data coverage and
at least one BTS providing an area of high-speed data
coverage, the method comprising the steps of:

identifying that the MS is exiting an area of high-
speed data coverage and entering an area of non-high-speed
data coverage;

negotiating service options between the MS and the
BSC; and

switching from high-speed packet data service
option to non-high-speed data circuit switched data service
option.

41. The computer-readable media of claim 40 wherein the
area of high-speed data coverage is an area of IS-2000
coverage and the area of non-high-speed data coverage is an
area of IS-95 coverage.

42. Computer-readable media embodying a program of
instructions executable by a computer to perform a method for
switching a non-high-speed data circuit switched data call to
a high-speed data packet data call in a CDMA (code division
multiple access) communication system having a base station
controller (BSC), a mobile station (MS) and a plurality of
base station transceivers (BTS) with at least one BTS
providing an area of non-high-speed data coverage and at

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least one BTS providing an area of high-speed data coverage, the method comprising the steps of:

identifying that the MS is exiting an area of non-high-speed data coverage and entering an area of high-speed data coverage;

negotiating service options between the MS and the BSC; and

switching from non-high-speed data circuit switched data service option to high-speed packet data service option.

10 43. The computer-readable media of claim 42 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

15 44. Computer-readable media embodying a program of instructions executable by a computer to perform a method for switching a high-speed data packet data call to a non-high-speed data packet data call in a CDMA (code division multiple access) communication system having a base station controller (BSC), a mobile station (MS) and a plurality of base station transceivers (BTS) with at least one BTS providing an area of non-high-speed data coverage and at least one BTS providing an area of high-speed data coverage, the method comprising the steps of:

25 identifying that the MS is exiting an area of high-speed data coverage and entering an area of non-high-speed data coverage;

negotiating service options between the MS and the BSC; and

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switching from high-speed packet data service option to non-high-speed data packet data service option.

45. The computer-readable media of claim 44 wherein the area of high-speed data coverage is an area of IS-2000 coverage and the area of non-high-speed data coverage is an area of IS-95 coverage.

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